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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,497	03/30/2001	Shawmin Lei	8371-128	6557

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EXAMINER

ALAVI, AMIR

ART UNIT

PAPER NUMBER

2621

DATE MAILED: 05/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/823,497

Applicant(s)

LEI ET AL.

Examiner

Amir Alavi

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

- In view of changes made to the Abstract of the invention, the objection regarding the Abstract has been withdrawn.
- Applicant's arguments filed 11 May 2004 have been fully considered but are not persuasive.
- Applicant argues on page 5, lines 10-11 that the claimed invention contains combination of VQ decoding combined with color space processing resulting in a decoding codebook 18 that is different from the encoding codebook 12. In this regard, although Examiner agrees that the applied prior art uses the same codebook for both encoding and decoding, however, nowhere, in any of the claims, there is any mention of such different codebook utilization. In this, Applicant is reminded that Examiner will interpret each claim in the broadest reasonable sense, as such, the claims and only the claims form the metes and bounds of the invention.

- Applicant argues on page 5, lines 19-20 that the claimed invention decodes and color processes in combination as a single process. In this regard, wherein, figures 1 and 9, elements 19-21, that is, the receiving, the decoding and the color conversion are all sub-processes of a single larger process.
- Applicant further argues that the applied prior art does not address half-toning, in this regard, wherein on column 20, line 21, a two bit data is indicative of half-toning.
- Applicant further argues that the applied prior art does not address wherein the input image is encoded in luminance-chrominance color space, however, column 13, lines 35-39, are indicative of luminance-chrominance color space.

Claim Rejections - 35 USC § 102

- The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Maeda et al. (US 5,341,441).

Regarding claim 1, Maeda et al., disclose: receiving a VQ encoded image (Please note, figure 1, elements 16, 17 and 19, in correlation to column 12, line 21. As indicated a vector quantized compressed code is received at a receiving unit 19); decoding the VQ encoded image (Please note, figure 1, element 20, in correlation to column 12, lines 21-22. As indicated a vector quantized compressed code is received at a receiving unit 19 and further decoded in a decoding unit 20); and performing output image color space processing in combination with the decoding as a single process (Please note, figures 1 and 9, elements 19-21, that is, the receiving,

the decoding and the color conversion are all sub-processes of a larger process).

Regarding claim 2, Maeda et al., disclose, wherein output image color space processing further comprises half-toning (Please note, column 20, lines 20-44, in this regard, wherein indicated a two bit data is in fact representative of half-tone).

Regarding claim 3, Maeda et al., disclose, wherein output image color space processing further comprises color transformation (Please note, figure 1, element 21; figure 9, element 21, in correlation to column 13, lines 35-39. As indicated a color converter for dividing the inputted image signals RGB into pixel blocks and converting these into a pixel block of a luminosity signal L^* and pixel blocks of chromaticity signals a^*b^* in CIE uniform color space).

Regarding claim 4, Maeda et al., disclose, wherein output image color space processing further comprises color transformation and half-toning (Please note, figure 1, element 21; figure 9, element 21, in correlation to column 13, lines 35-39 and column 20, lines 20-44. As indicated a color converter for dividing the inputted image signals RGB into pixel blocks and converting these into a pixel block of a luminosity signal L^* and pixel blocks of chromaticity signals a^*b^* in CIE uniform color space, in this regard, wherein indicated a two bit data is in fact representative of half-tone).

Regarding claim 5, Maeda et al., disclose, wherein the VQ encoded image is in the luminance-chrominance color space (Please note, figure 1, element 21; figure 9, element 21, in correlation to column 13, lines 35-39. As indicated a color converter for dividing the inputted image signals RGB into pixel blocks and converting these into a pixel block of a luminosity signal L^* and pixel blocks of chromaticity signals a^*b^* in CIE uniform color space).

Regarding claim 6, Maeda et al., disclose, wherein the output image color space processing produces RGB data (Please note, column 12, lines 28-30. As indicated the image data decoded by the decoding unit 20 are outputted by an image output unit 21. The latter can be a soft copy such as a display. In this regard, a display is representative of RGB data).

Regarding claim 7, Maeda et al., disclose, wherein the output image color space processing produces CMYK data (Please note, column 12, line 37)).

Regarding claim 8, Maeda et al., disclose, wherein the VQ encoded image is encoded with a codebook that is not a power of 2 (Please note, column 4, lines 25-26. As indicated performing vector quantization and outputting n -bit data, where $n < 1 \cdot m$. In this regard, since m times unity is m , therefore $n < m$, in this, having a matrix of $n \cdot m$ is not a power of 2).

Regarding claim 9, Maeda et al., disclose, wherein the VQ decoding footprint is a subset of the halftone footprint (Please note, column 23, lines 56-67).

Regarding claim 10, Maeda et al., disclose, wherein the VQ encoded image is encoded through compression of a vector formed by data from multiple color components (Please note, figure 1, element 16 and 17, in correlation to column 13, lines 35-39. As indicated a color converter for dividing the inputted image signals RGB into pixel blocks and converting these into a pixel block of a luminosity signal L^* and pixel blocks of chromaticity signals a^*b^* in CIE uniform color space. In this regard color space RGB is comprised of three distinct color components R, G, B).

Regarding claim 11, arguments analogous to those presented for claim 1, are applicable.

Regarding claim 12, Maeda et al., disclose: at least one input path operable to receive VQ encoded data (Please note, figure 1, element 11); a lut operable to provide output values for a given input value (Please note, figure 1, element 16, in this regard, a vector quantizer provides output values for given input value); a processor operable to receive the VQ encoded data and access the lut to acquire output values such that the output values are both decoded and color transformed (Please note figure 1, this figure as a whole is a processor performing different processing, in this,

element 21 of figure 1, is representative of output values that are decoded in the decoder 20 and now are color converted as indicated in figure 9, element 21); and at least one output path operable to allow the processor to transmit the output values for further processing (Please note, figure 1, element 18).

Conclusion

- **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
- A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Contact Information

- Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Amir Alavi whose telephone number is (703) 306-5913.
- The Examiner can normally be reached on Monday through Thursday from 8:00 a.m. to 6:30 p.m. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Leo Boudreau, can be reached at (703) 305-4706.

Any response to this action should be mailed to:

Assistant Commissioner for Patents

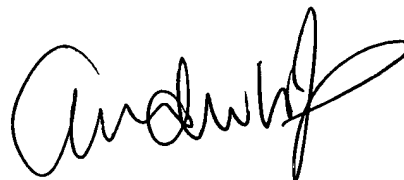
Washington, D.C. 20231

Or faxed to:

(703) 872-9306, ("draft" or "informal" communications should be clearly labeled to expedite delivery to Examiner)

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist). Any inquiry of a general nature or relating to the status of this application should be directed to the T.C. Customer Service Office whose telephone number is (703) 306-0377.

AA
Art Unit 2621
20 May 2004



**ANDREW W. JOHNS
PRIMARY EXAMINER**